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 Hietanen, E. 2093  
 Hildebrand, H.F. 1943  
 Hill, M.J. 1373  
 Hillebrand, M.J.X. 1677  
 Hino, O. 1145  
 Hinrichsen, L.I. 1879  
 Hioki, K. 2015  
 Hirai, H. 145  
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 Hirose, M. 239,425,731,869,997,1891  
 Hiwasa, T. 75  
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 Höglberg, J. 69  
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 Holmes, E.H. 89  
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 Howard, P.C. 1539  
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 Hradec, J. 1789,1843,1921  
 Hsu, J.-C. 553  
 Hsu, L.-C. 1245  
 Huang, M. 1059  
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 Huleihel, M. 2097  
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 Ibanez, V. 985,1667  
 Iida, T. 445  
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 Ikeda, S. 1213  
 Ikegawuon, F.I. 1927  
 Imaida, K. 393  
 Imaizumi, M. 123  
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 Imanishi, Y. 1171  
 Ingelman-Sundberg, M. 489  
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 Ishida, R. 1209  
 Ishikawa, T. 235,1523  
 Ishizaki, H. 2239  
 Ito, N. 239,425,549,561,653,731,793,997,1027,1891,1975  
 Ito, Y. 1887  
 Iwashima, A. 1557  
 Iwata, H. 799  
 Iyehara-Ogawa, H. 841  
 Izzotti, A. 2171  
  
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 Jefcoate, C.R. 321,1691  
 Jensen, D.E. 411,1075  
 Jensen, M.B. 1259  
 Jiang, Y.-Z. 2271  
 Johnson, R.L. 519  
 Jones, A.B. 1979  
 Jongen, W.M.F. 883  
 Jordan, K.G. 1017  
 Julius, A.D. 745  
  
 Kadlubar, F.F. 139,639,1307  
 Kagan, M.R. 1863  
 Kalamegham, R. 777  
 Kamano, K. 731  
  
 Kanai, Y. 1001  
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 Kelly, M.D. 387,1149  
 Kennedy, A.R. 329,1083  
 Kennedy, G. 865  
 Kerckaert, G.A. 909  
 Kerckaert, J.P. 1943  
 Ketterer, B. 2179  
 Keyse, S.M. 283,787  
 Kiefer, F. 485  
 Kilkeny, M. 361  
 Kim, D.-H. 419,2275  
 Kimura, H. 841  
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 Klokow, K. 1789  
 Klone, A. 2179  
 Klopman, G. 349,1111  
 Klose, U. 1479  
 Knize, M.G. 941,2259  
 Koblyakov, V. 1921  
 Kocal, T. 2255  
 Kodari, E. 957  
 Koenigsmann, M. 1583  
 Koffel-Schwartz, N. 1087  
 Kohyama, K. 235  
 Koivisto, P. 1389  
 Kojima, T. 1403  
 Kokkinakis, D.M. 625,1909  
 Koller, L.D. 829  
 Kondoh, S. 1783  
 Konishi, N. 647,903,2149  
 Konishi, Y. 895,1323,1783  
 Korfmacher, W.A. 1705  
 Kosaka, H. 1887  
 Koszalka, M. 1849  
 Kraus, P. 617  
 Kriek, E. 1677  
 Kubota, H. 151  
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 Kuhnlein, U. 117  
 Kunz, B.A. 633  
 Kurashima, Y. 1887  
 Kurokawa, Y. 345  
 Kuwa, K. 145  
 Kyrtopoulos, S.A. 431  
  
 La Voie, E.J. 1971  
 Laconi, E. 981  
 Lakshmi, V.M. 139,1965  
 Lambert, J.B. 1037  
 Lambert, M.W. 499  
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- Lamers, C.B.H.W. 2223  
 Langenbach, R. 1293  
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 LeBoeuf, R.A. 909  
 Ledda-Columbano, G.M. 771,835  
 Lee, G.-H. 1145  
 Lee, M.-S. 985,2009  
 Lee, X. 397  
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 Leierseder-Bauer, M. 1313  
 Leithauser, M.T. 463  
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 Lindahl, R. 1059  
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 Lombart-Bosch, A. 1727  
 Llor, X. 2127  
 Lo Bello, M. 2267  
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 Lohr, C. 1563  
 Lohrer, H. 1937  
 Lombardi, B. 7047,2053  
 Long, R.E. 1605  
 Longnecker, D.S. 1393  
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 Luebeck, E.G. 1271  
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 Luque-Romero, F.L. 975  
 Lutgerink, J.T. 1677  
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 Mangino, M.M. 625  
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 Mangold, K.A. 2075  
 Mann, D.L. 553,859,1903  
 Mannervik, B. 1569  
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 Masuda, A. 239,731  
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 Matsui, M.S. 229  
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 Mattammal, M.B. 139,1965  
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 May, L. 927  
 Mayne, L. 185  
 Mazrimas, J.A. 941  
 McCalla, D.R. 1037  
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 Medina, D. 2071  
 Meerman, J.H.N. 27,333,1775  
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 Metcalfe, C. 2255  
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 Miglietta, L.M. 2059  
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 Mikol, Y.B. 1301  
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 Miller, E.C. 463  
 Miller, J.A. 463,1451  
 Miller, M.S. 1979  
 Milligan, J.R. 947  
 Millis, R. 2163  
 Milner, J.A. 1959  
 Minoura, T. 2015  
 Minunni, M. 1503  
 Mis, J.R.A. 633  
 Misra, M. 647  
 Mitchell, C.E. 155  
 Mitchell, E.L.D. 1803  
 Miyata, N. 1985  
 Modali, R.V. 1527  
 Modzelewski, R.A. 571  
 Möller, L. 1249  
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 Morte, R.D. 213  
 Mosesso, P. 1509  
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 Muakkassah-Kelly, S.F. 1531  
 Mueller, G.C. 1927  
 Mukhopadhyay, R. 2071  
 Mukhopadhyay, T. 2071  
 Mulder, G.J. 27  
 Müller, G. 1127  
 Mullin, J.M. 377  
 Mumford, J.L. 397  
 Murata, Y. 895  
 Murphy, S.E. 1663  
 Mutai, M. 1975  
 Myers, S.R. 493  
  
 Nagao, M. 869  
 Nair, U.J. 2145  
 Nakadate, T. 749  
 Nakae, D. 895,1783  
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 Newman, M.J. 859,1903  
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 Nice, L. 219  
 Nicholson, M.L. 2191  
 Nilsson, R. 1899  
 Nishifuji, K. 1381  
 Nishino, A. 1557  
 Nishino, H. 1557  
 Nishiwaki, S. 1837  
 Nivard, M.J.M. 2211  
 Nomura, K. 1145  
 Norman, C.A. 1037  
  
 O'Callaghan, J.P. 361  
 O'Neill, I.K. 599,609,1577,1989  
 Obe, G. 37  
 Oesch, F. 697,1721,1771,1921  
 Oesterle, D. 2111  
 Ogiso, T. 561  
 Ohnishi, Y. 1381  
 Ohno, T. 1403  
 Ohtake, K. 1145  
 Ohyama, Y. 1647  
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 Okuda, K. 1647  
 Okuyama, H. 731  
 Okuyama, T. 1557  
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 Orton, T.C. 371  
 Ostrander, G.K. 1045  
 Overvik, E. 2185  
 Ozaki, K. 549,1975  
 Ozawa, S. 2137  
  
 Packer, P.J. 1373  
 Padykula, R.E. 1473  
 Paffe, S. 847  
 Pagani, P. 181  
 Pai, J.K. 1927  
 Pani, P. 771  
 Parish, J.H. 2001,2005  
  
 Park, S.S. 1653  
 Parker, H.M. 1959  
 Parker, N.B. 553  
 Parkinson, A. 1293  
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 Pongracz, K. 1469  
 Port, R.E. 1271  
 Pottenger, L.H. 321,1691  
 Potter, M. 1  
 Pour, P.M. 577,745  
 Pourcel, C. 953  
 Povey, A.C. 599,609,1577,1989  
 Powis, G. 451,2163  
 Prasanna, P. 1195  
 Prétat, V. 1899  
 Presta, M. 261  
 Preussmann, R. 723  
 Prevost, V. 1747  
 Price, F.M. 1425  
 Priel, E. 2097  
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 Putz, B. 617,847  
  
 Qin, X. 235,1523  
  
 Raabe, H. 95  
 Ragnotti, G. 261  
 Rahman, A. 2001,2005  
 Rajalakshmi, S. 835,981  
 Rajaraman, S. 713  
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 Ramel, C. 1399

- Randerath, E. 1041  
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 Resau, J. H. 1527  
 Retèl, J. 701  
 Rice, J. E. 1971  
 Rice, J. M. 647  
 Richard, J. 2145  
 Richter, E. 1517  
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 Riordan, J. M. 223  
 Roberfroid, M. 1899  
 Robertson, L. 921  
 Robson, T. 1937  
 Roeser, H. 1127  
 Rogers, A. E. 1491  
 Rojas, M. 2157  
 Roldán-Arjona, T. 975  
 Romero, F. 697  
 Romero, F. J. 1727  
 Romert, L. 1399  
 Roop, D. R. 1995  
 Roper, M. 2259  
 Rosenblad, W. D. 855  
 Rosenkranz, H. S. 349, 1111  
 Rossland, O. J. 489  
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 Ryden, E. B. 405  
 Sabbioni, G. 111, 2063  
 Šafarik, L. 1789  
 Sai, K. 345  
 Sakaguchi, M. 2015  
 Sakai, A. 1985  
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 Scully, C. 965  
 Segal, S. 2097  
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 Segura-Aguilar, J. 1727  
 Seidegard, J. 33  
 Seidel, A. 1921  
 Seidenberg, J. 397  
 Seki, S. 1213  
 Servais, P. 1433  
 Sesardic, D. 1183  
 Shahabuddin, 2001  
 Shamsuddin, A. M. 2219  
 Sharp, R. B. 1203  
 Shaulsky, G. 519, 529  
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 Shé, M. N. 1005  
 Shen, J.-H. 1441  
 Shen, N. H. 2259  
 Shi, Y. E. 1103  
 Shibata, M.-A. 425, 997, 1027  
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 Shichino, Y. 1975  
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 Shirai, T. 653, 793  
 Shirali, P. 1943  
 Shockcor, J. P. 519  
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 Shuker, D. E. G. 1747, 2093  
 Sies, H. 2179  
 Simpson, C. F. 1883  
 Simpson, J. L. 1175  
 Singletary, K. W. 1959  
 Sipes, I. G. 1951  
 Skipper, P. L. 507  
 Skotnicki, S. M. 947  
 Slaga, T. J. 991, 1139, 1995  
 Slater, T. F. 1429  
 Smith, A. G. 437  
 Smith, B. A. 1705  
 Smith, B. J. 1951  
 Smith, C. A. 811  
 Smith, M. T. 755  
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 Stevens, E. K. 1473  
 Stevens, J. C. 1951  
 Stewart, B. C. 463  
 Stewart, P. 1691  
 Stewart, R. K. 823, 1915  
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 Stillwell, W. G. 1747  
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 Takada, K. 1647  
 Takagi, A. 345  
 Takahashi, A. 1985  
 Takahashi, H. 1857  
 Takahashi, M. 393  
 Takahashi, S. 549, 1027, 1891  
 Takai, S. 1425  
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 Takata, M. 1557  
 Takata, T. 2015  
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 Tanaka, H. 257  
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 Tannenbaum, S. R. 507, 855, 1747  
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